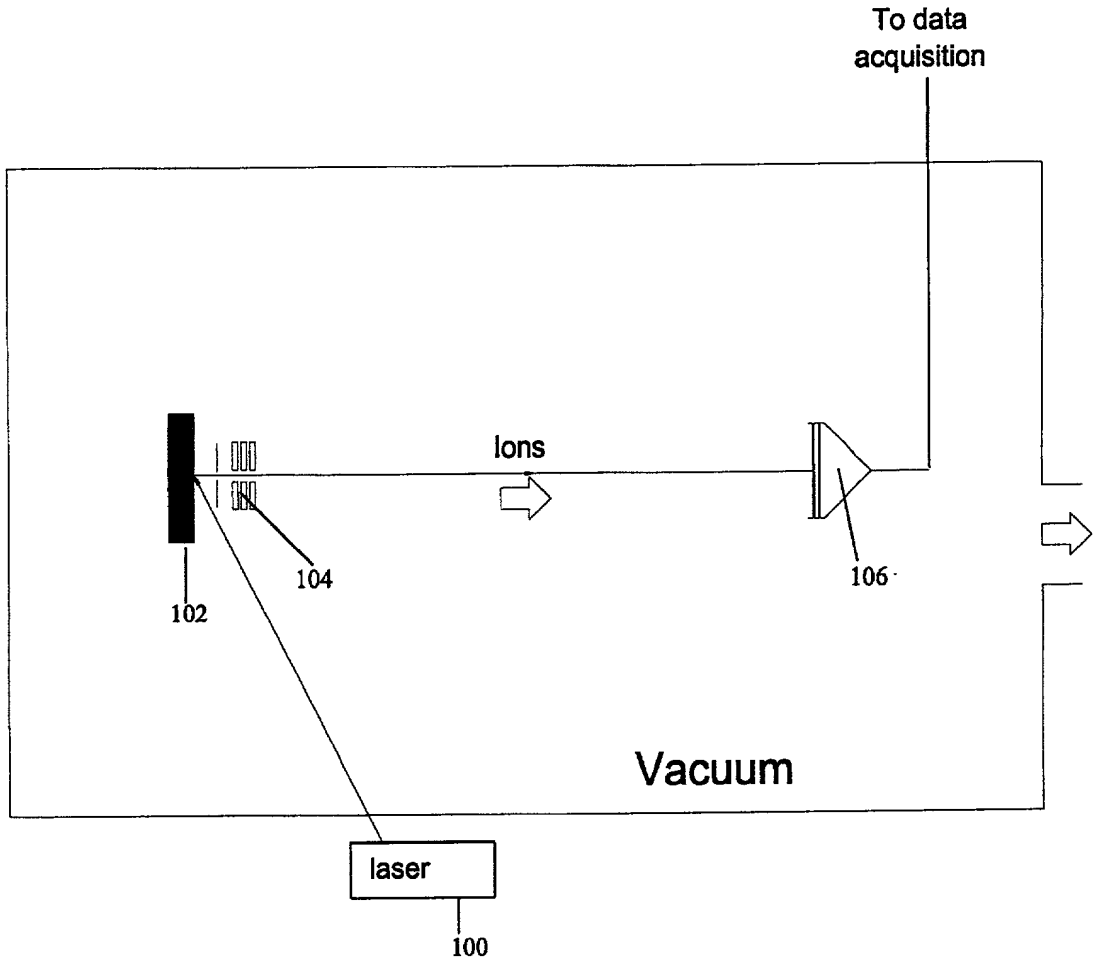

FIGURE 1A

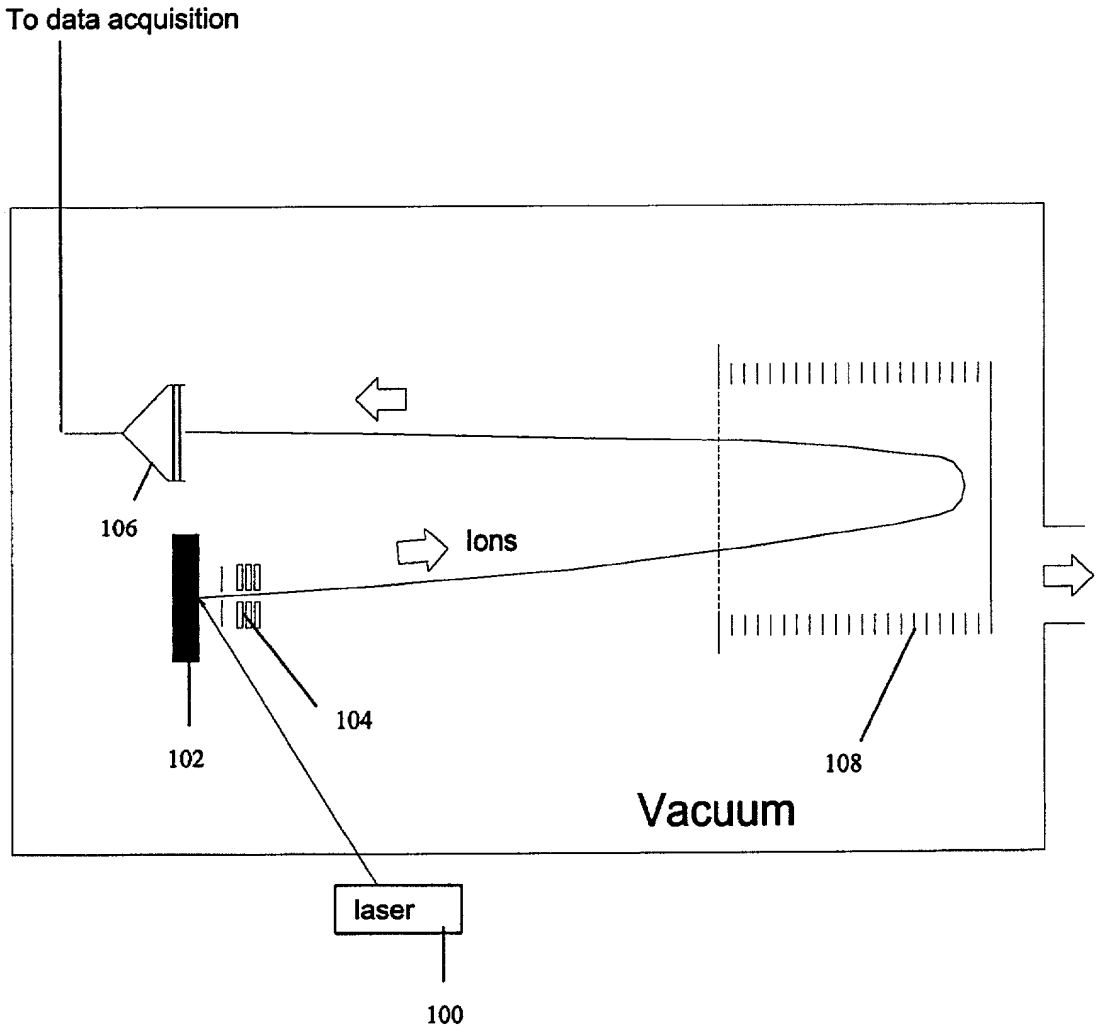

FIGURE 1B

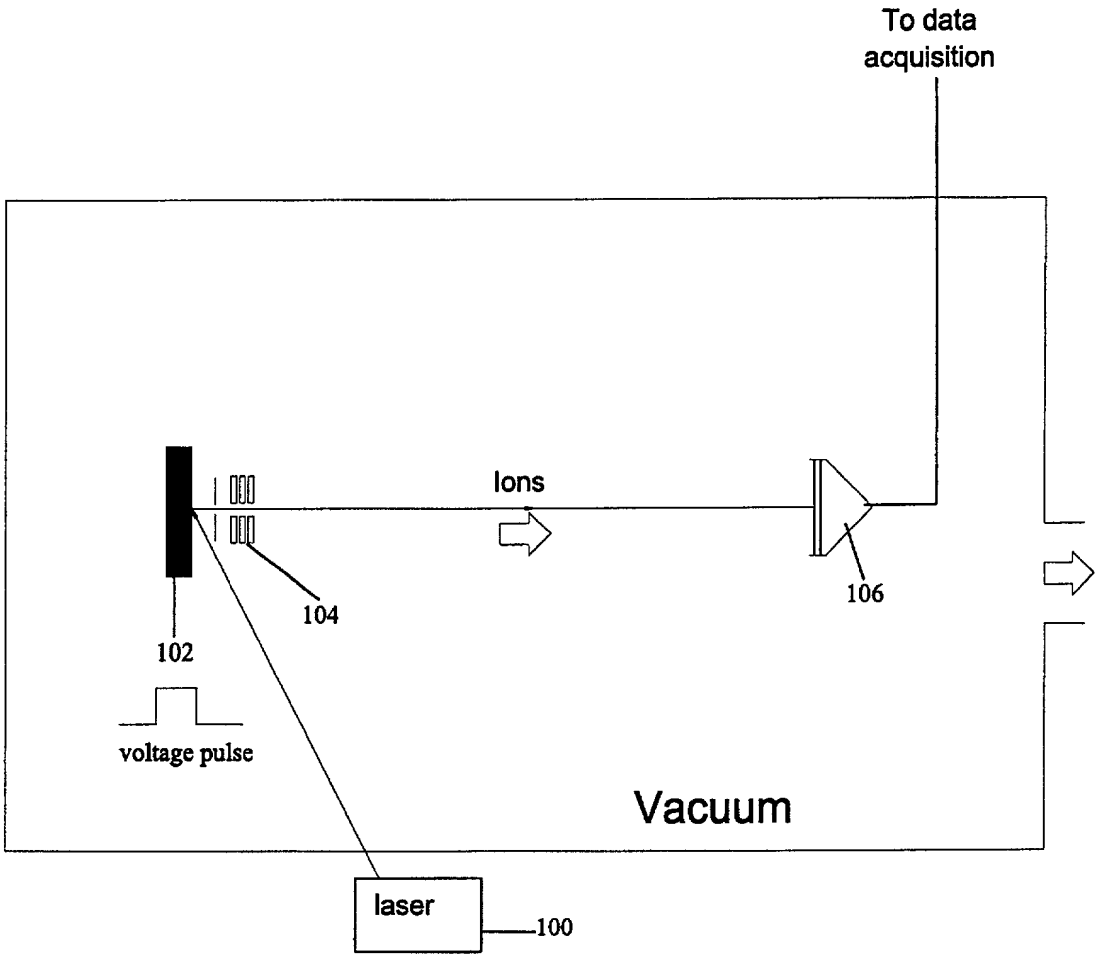
To data acquisition
Ions
104
106
102
voltage pulse
Vacuum
laser
100

FIGURE 1C

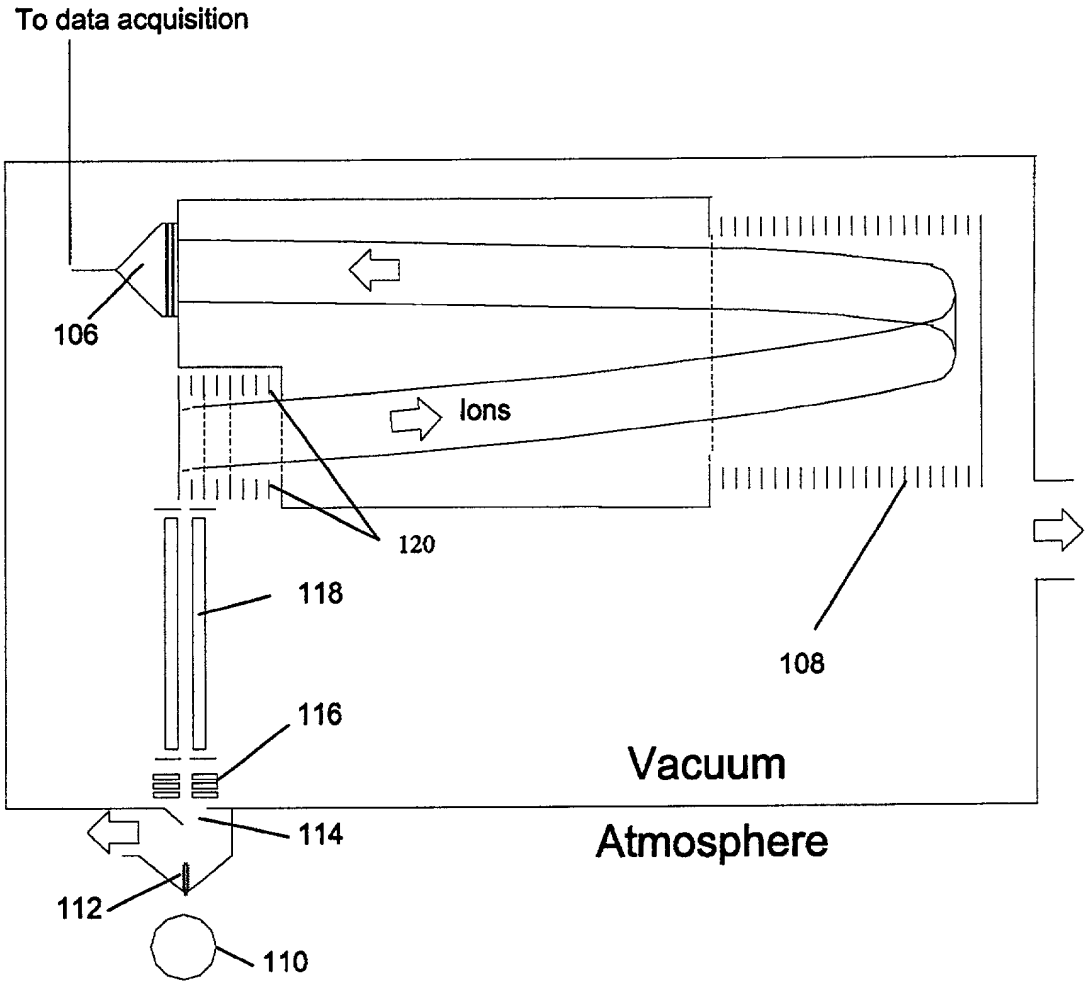
To data acquisition
106
Ions
120
118
116
114
112
110
108
Vacuum
Atmosphere

FIGURE 1D

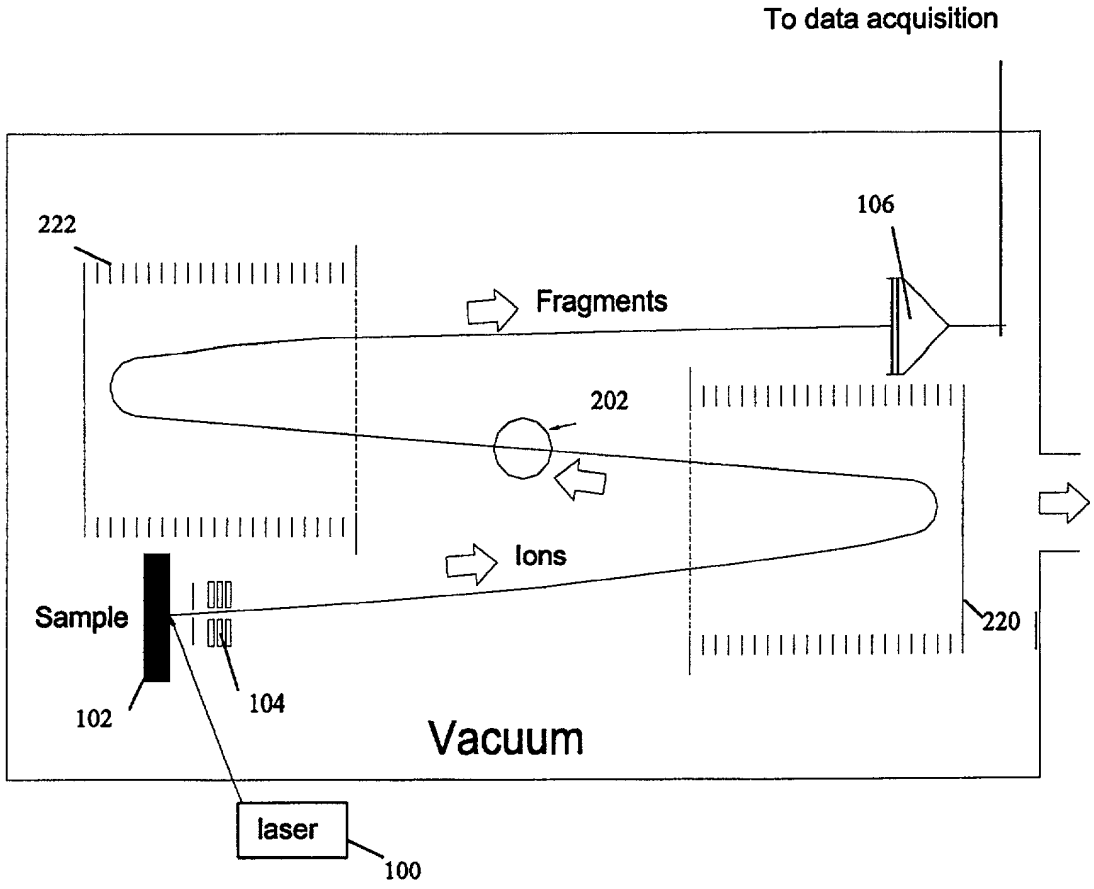
To data acquisition
222
106
Fragments
202
Ions
Sample
220
102
104
Vacuum
laser
100

FIGURE 2A

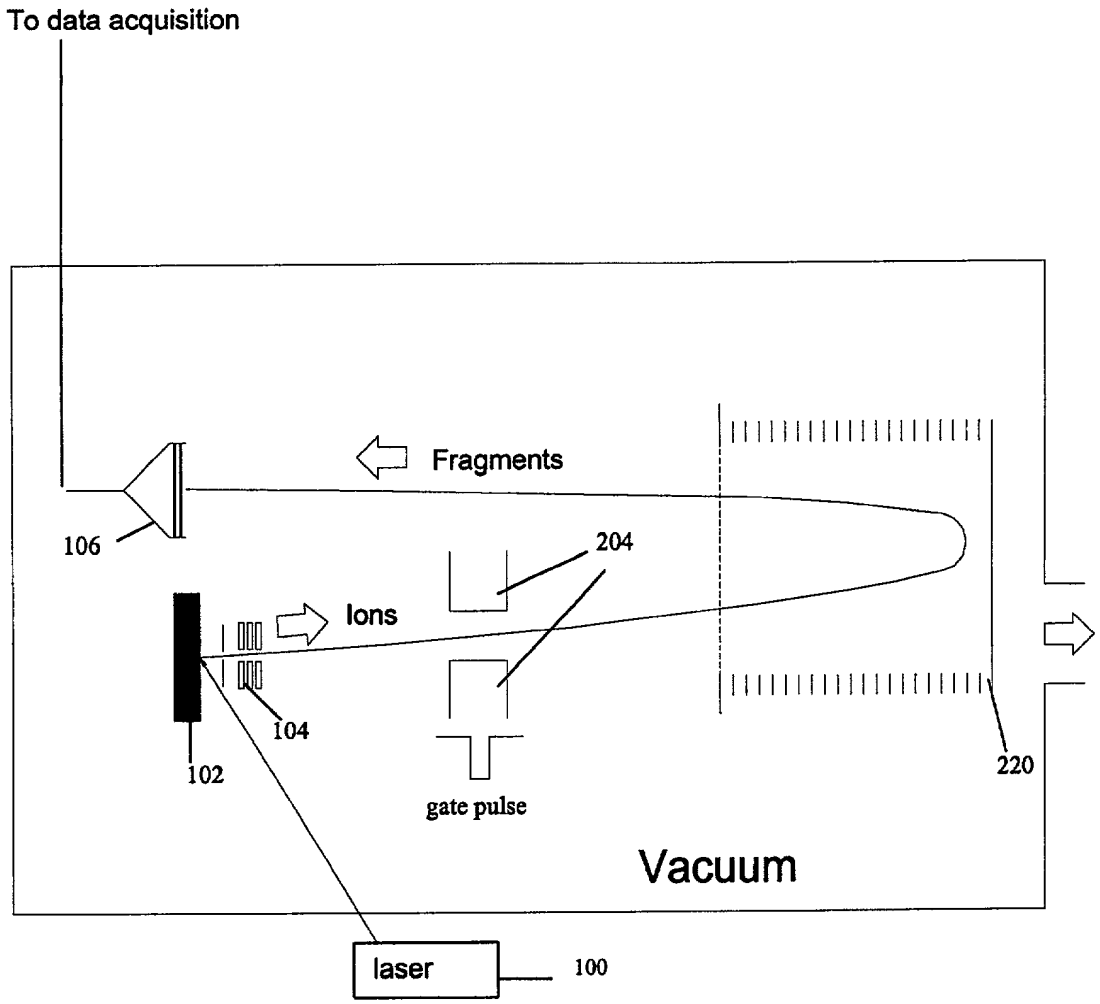
To data acquisition
Fragments
106
204
Ions
104
102
gate pulse
220
Vacuum
laser
100

FIGURE 2B

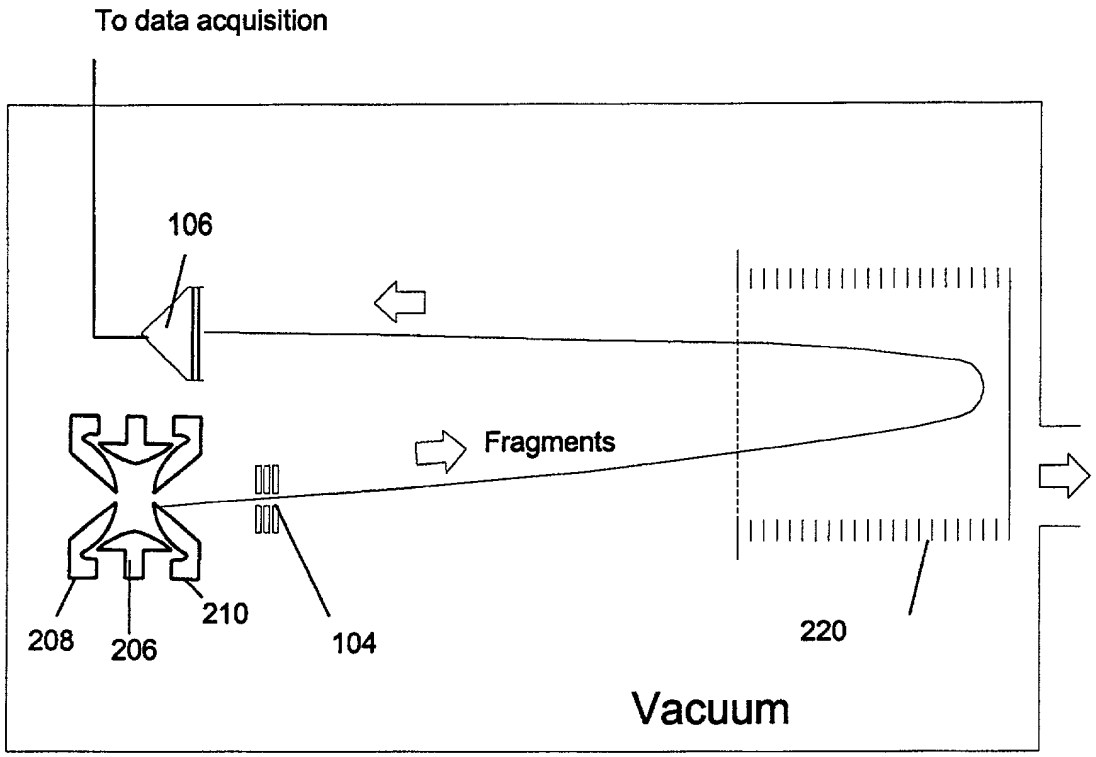
To data acquisition
106
Fragments
208
206
210
104
220
Vacuum

FIGURE 2C

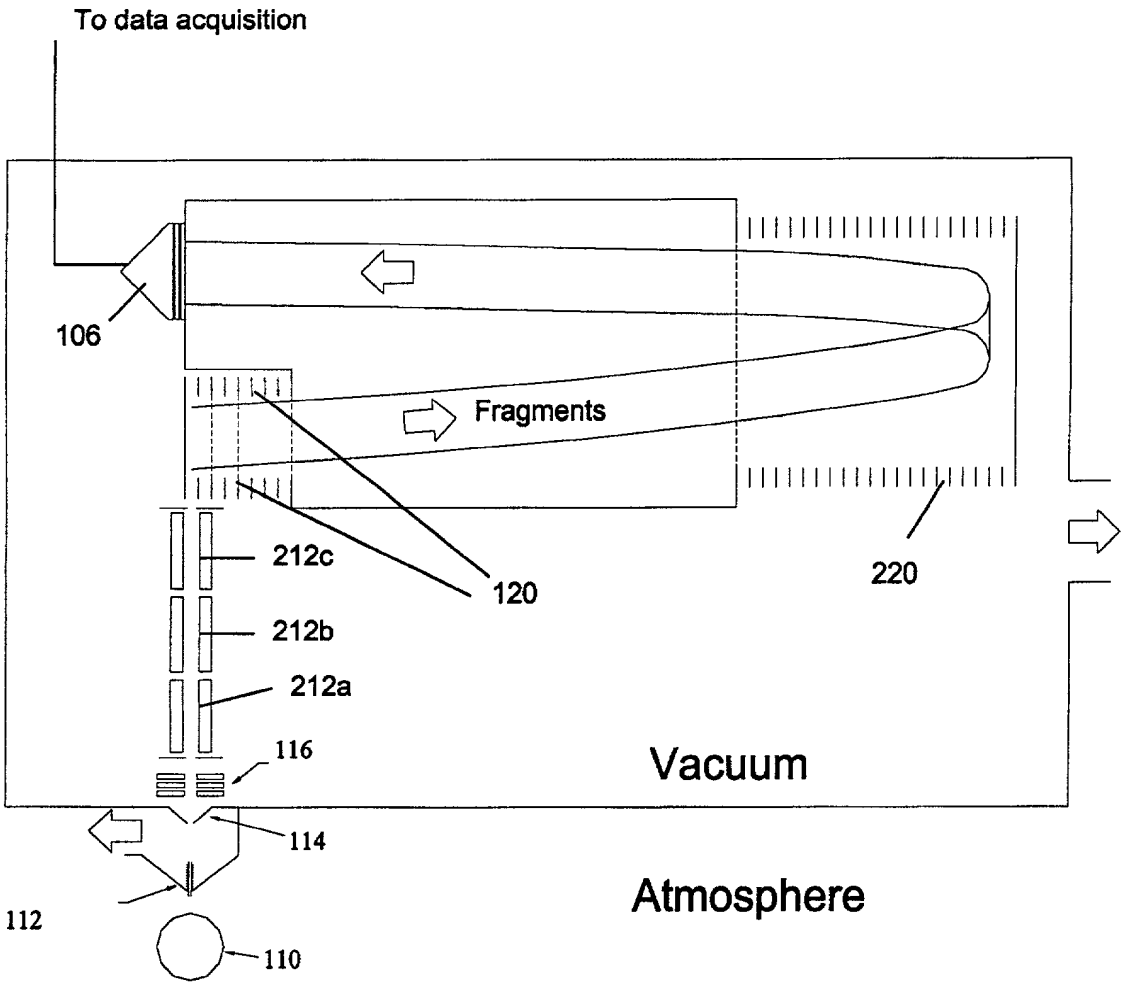
To data acquisition
106
Fragments
212c
120
220
212b
212a
116
Vacuum
114
Atmosphere
112
110

FIGURE 2D

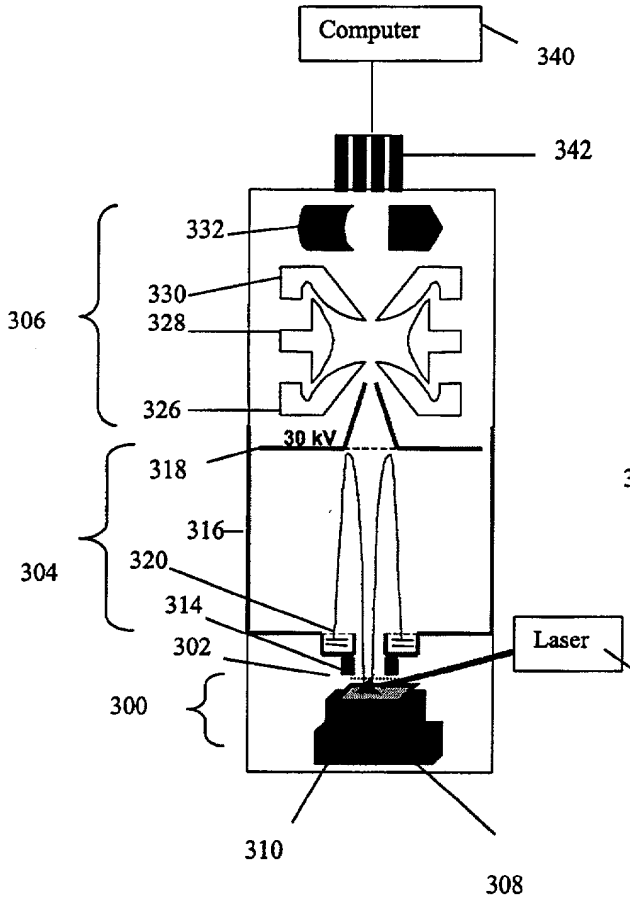

FIGURE 3A

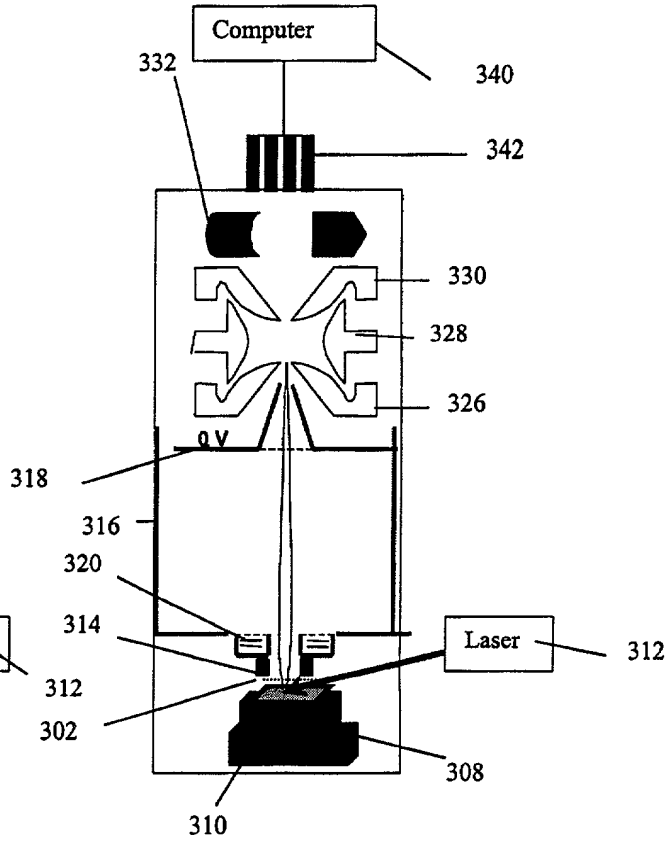

FIGURE 3B

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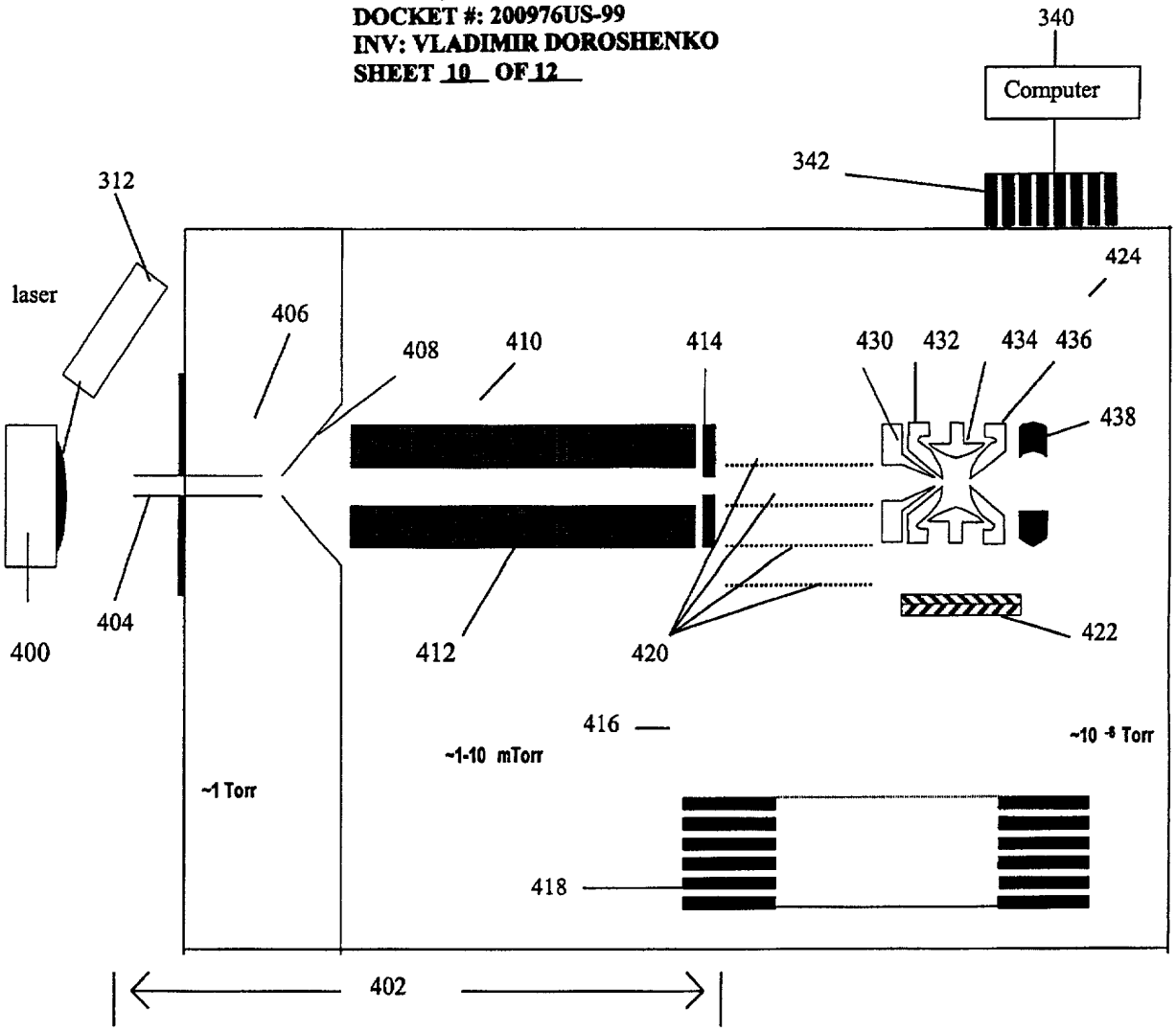
340
Computer
342
312
laser
424
406
408
410
414
430
432
434
436
438
400
404
412
420
422
416
~1-10 mTorr
~10 -6 Torr
~1 Torr
418
402

FIGURE 4

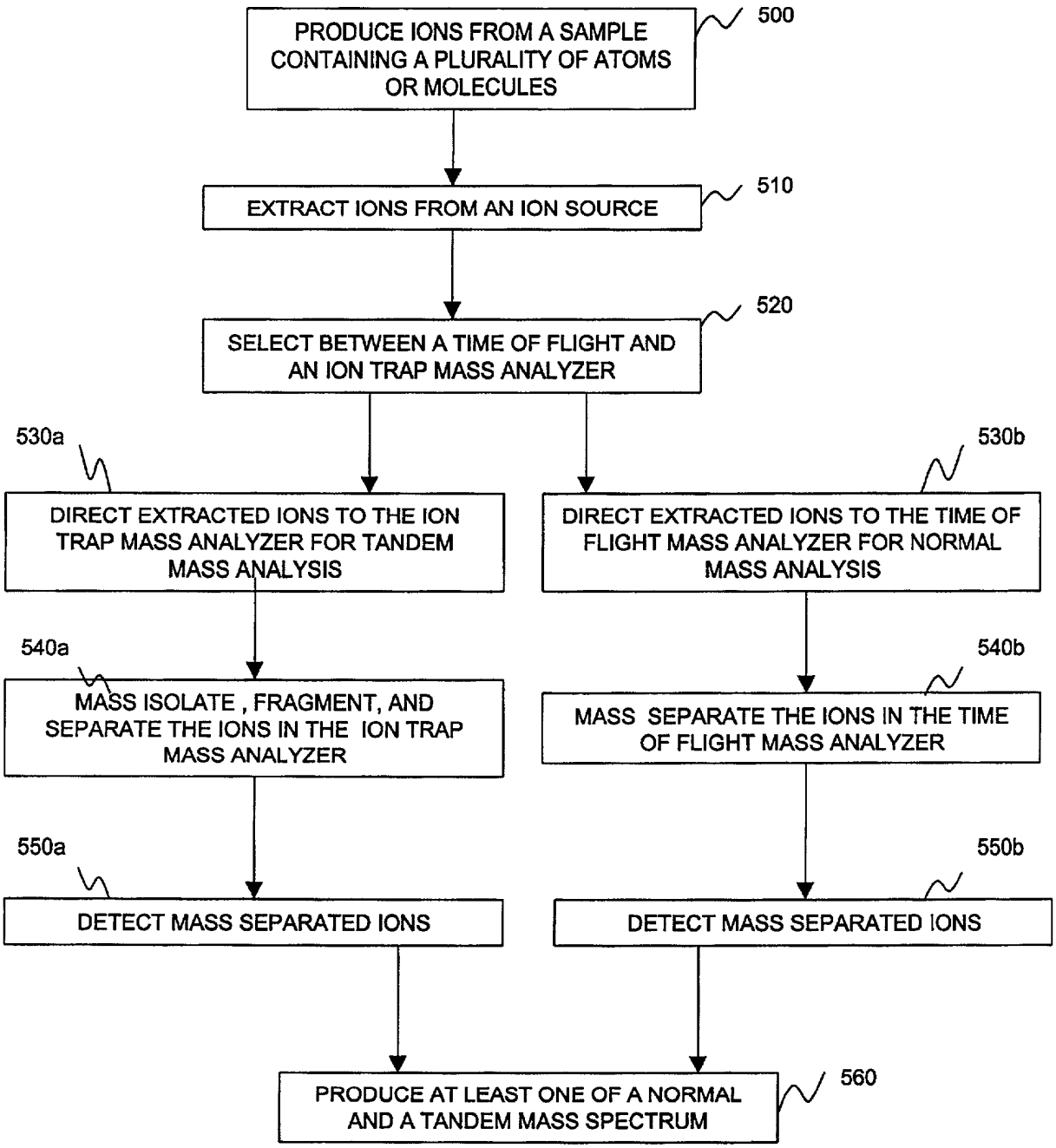
PRODUCE IONS FROM A SAMPLE CONTAINING A PLURALITY OF ATOMS OR MOLECULES
500
EXTRACT IONS FROM AN ION SOURCE
510
SELECT BETWEEN A TIME OF FLIGHT AND AN ION TRAP MASS ANALYZER
520
530a
DIRECT EXTRACTED IONS TO THE ION TRAP MASS ANALYZER FOR TANDEM MASS ANALYSIS
530b
DIRECT EXTRACTED IONS TO THE TIME OF FLIGHT MASS ANALYZER FOR NORMAL MASS ANALYSIS
540a
MASS ISOLATE , FRAGMENT, AND SEPARATE THE IONS IN THE ION TRAP MASS ANALYZER
540b
MASS SEPARATE THE IONS IN THE TIME OF FLIGHT MASS ANALYZER
550a
DETECT MASS SEPARATED IONS
550b
DETECT MASS SEPARATED IONS
PRODUCE AT LEAST ONE OF A NORMAL AND A TANDEM MASS SPECTRUM
560

FIGURE 5

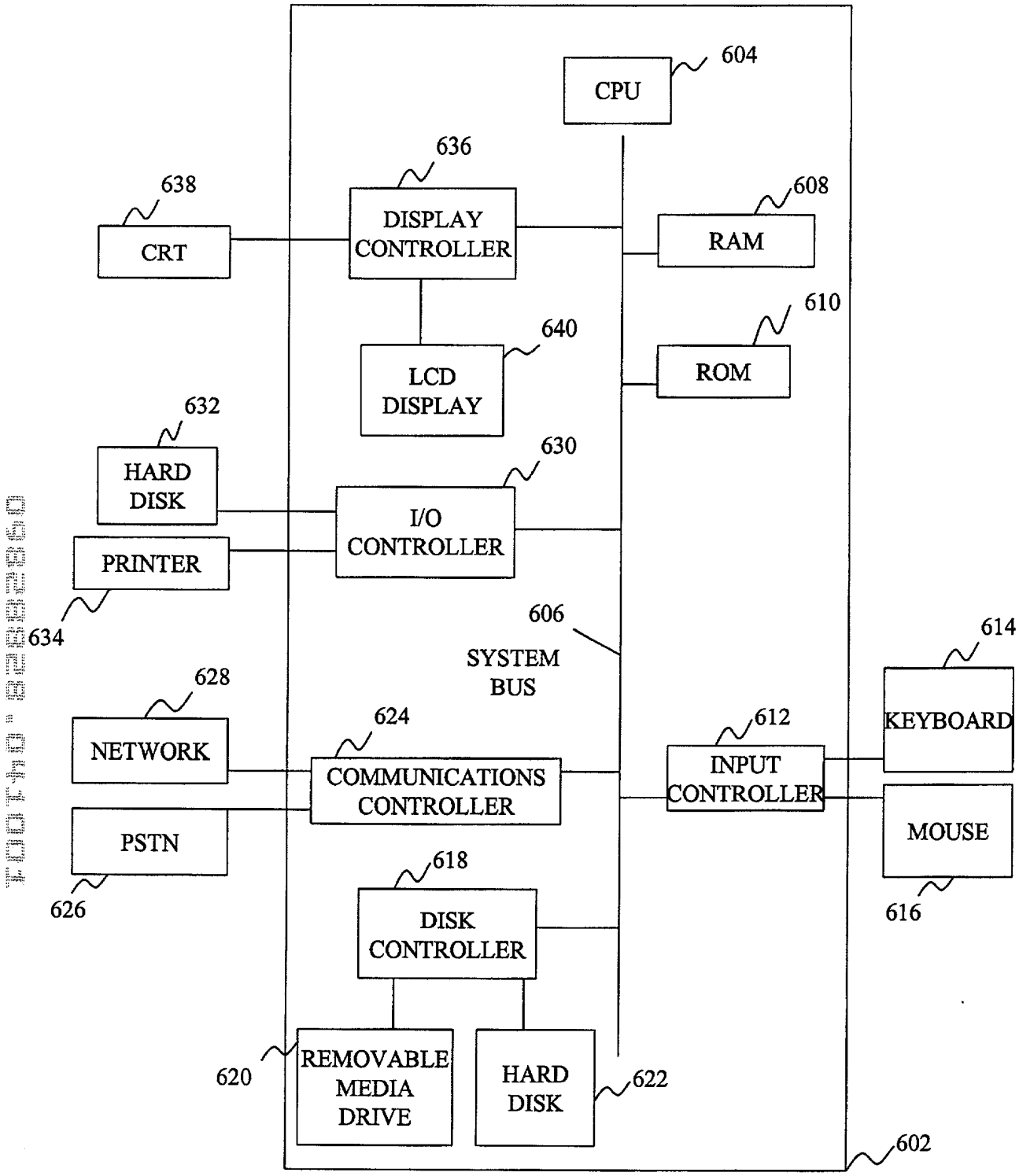
CPU
604
636
638
DISPLAY CONTROLLER
608
CRT
RAM
610
640
LCD DISPLAY
ROM
632
630
HARD DISK
I/O CONTROLLER
PRINTER
634
606
614
SYSTEM BUS
628
624
612
KEYBOARD
NETWORK
COMMUNICATIONS CONTROLLER
INPUT CONTROLLER
PSTN
MOUSE
618
626
616
DISK CONTROLLER
620
REMOVABLE MEDIA DRIVE
HARD DISK
622
602

FIGURE 6